

**Remarks:**

**Status of Claims**

Claims 1, 2 and 14-21 are currently pending, with claims 1, 14, 17 and 20 being independent, claims 1 and 2 being currently amended, and claims 14-21 being new. Claims 5, 6, 10 and 11 have been withdrawn due to applicant's election, without traverse, to prosecute the first invention of FIG. 1 and 2 and claims 1 and 2, as was initially stated to the Examiner during a telephone conversation on March 30, 2004.

**Office Action**

The Examiner rejected claims 1 and 2 under 35 USC 102(b) as being anticipated by Prescott (U.S. Patent No. 3,489,243). Applicant respectfully submits that the currently pending claims distinguish the present invention from Prescott and all other prior art of record. Specifically, Prescott fails to disclose or suggest a linkage, including a substantially non-conductive material, which couples a control handle to a control assembly to provide a dielectric gap between the control handle and a movable boom to substantially electrically isolate the control handle from the control assembly and the boom.

Instead, Prescott discloses a *boom* having dielectric or electrically non-conductive materials housed therein, thereby creating a dielectric gap which encompasses the entire boom. In particular, Prescott discloses a control 24 for connection of boom section 16b with boom 14 (Col. 1, ll. 64-70; Figs. 1 and 8). The control 24 is therefore internal to the boom section 16b and boom 14 and positioned a significant distance from an operator located in a bucket 18 (See Fig. 1 to compare placement of control 24 at the joining of boom section 16b and boom 14). In contrast, the control assembly of the present invention is positioned in proximity to an end of the boom nearest the control handle and operator, thereby eliminating the excessive costs incurred in constructing an entire boom of non-conductive materials.

Prescott also discloses a non-conducting U-shaped carrier 52 positioned throughout boom 16. (Col. 2, ll. 12-19). An actuator 34 comprising non-conducting rod-like members 36 and

38 is positioned within the carrier 52. (Col. 2, ll. 1-5). To provide structural integrity to the boom and to "limit the amount of bow" of the actuators housed within the boom, a plurality of non-conducting plate-like members are transversely positioned within the carrier 52 at selective intervals. (Col. 2, ll. 27-35; Figs. 4 and 5). In contrast, the non-conducting material of the present invention is limited to the control handle or linkage, thereby eliminating the need for additional reinforcements of other structures.

Furthermore, the non-conducting "linkage 36, 38" cited by the Examiner is not the linkage 50 of the present invention. The "linkage 36, 38" cited by the Examiner is the actuator described in the preceding paragraph, which extends the length of the boom, as stated in column 2, lines 1-5:

Each spool has an actuator 34 extending longitudinally of boom 16 therewithin comprising a pair of elongated, longitudinally reciprocal, rod-like members 36 and 38 of non-conducting material, and each actuator 34 has a coupling 40 with its corresponding spool.

In contrast, the linkage 50 of the present invention simply couples a control handle 48 to a control valve 40. As the control valve is proximate the control handle 48, the linkage 50 is not required to run the length of the boom. Thus, the present invention may be implemented in conventional booms, without the wholesale modification and additional expense required by Prescott to include non-conducting rod-like members throughout the length of the boom.

Additionally, as noted in the *Description of the Prior Art*, prior art booms commonly have non-conductive material in an intermediate portion or section of the boom, as does Prescott. (See Page 2, ll. 3-6). However, the problem with limiting the non-conductive material to only within the boom is that a distal end of the boom necessarily includes electrically conductive structural material, thus exposing the work station and control assembly, both of which are in contact with the operator, to highly-charged electrical lines or devices.

As also noted in the *Description of the Prior Art* of the present application, the operator workstation is commonly provided with a protective non-conducting liner. Because the control handle and linkage must be in direct physical contact with the control assembly, the operator

must reach outside the work station, and thus outside the protective liner, thereby exposing the operator to electrical discharge. Therefore, providing the linkage constructed of or covered with non-conductive material further ensures the operator is not in direct physical contact with conductive material.

To overcome the problems of Prescott and other prior art booms, the present application discloses the linkage positioned proximate to the operator and made of non-conductive material. Therefore, because the structural integrity of the boom is preserved by using conductive materials, such as metal, the present application overcomes problems in the prior art, including those found in Prescott, by providing the dielectric gap between the operator (control handle) and the conductive boom. Additionally, unlike Prescott, the boom does not have to be fitted with numerous support means necessary for supporting the weight of the operator and the boom, which advantageously reduces manufacturing costs, and allows the use of conventional, substantially conductive, booms.

Applicant thus respectfully submits that Prescott does not teach or suggest constructing or covering an intermediate linkage with a non-conductive material to provide a dielectric gap between a control handle and a boom to substantially electrically isolate the control handle from a control assembly and the boom. Instead, Prescott discloses constructing actuators and other structures made of a non-conductive material and housing the actuators and other structures within the boom. As discussed above and in the present application's specification, the present invention improves upon and overcomes problems associated with prior art booms, such as disclosed in Prescott.

In view of the amended claims and remarks herein, applicant respectfully submits that claims 1,2 and 14-21 are now in allowable condition and requests a Notice of Allowance. In the event of further questions, the Examiner is urged to call the undersigned. Any additional fee which is due in connection with this amendment should be applied against our Deposit Account No. 19-0522.

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Respectfully submitted,

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